



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/809,419

03/26/2004

Kesahiro Koike

Q80754

6804

23373 7590 09/28/2007
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

GOUDREAU, GEORGE A

ART UNIT

PAPER NUMBER

1763

MAIL DATE


DELIVERY MODE

09/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/809,419	Applicant(s) KOIKE, KESAHIRO	
	Examiner George A. Goudreau	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-24 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

George A. Goudreau
GEORGE GOUDREAU
PRIMARY EXAMINER
9-071

Attachment(s)

- | | |
|---|---|
| <p>1) <input checked="" type="checkbox"/> <u>Notice of References Cited (PTO-892)</u></p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6) <input type="checkbox"/> Other: _____</p> |
|---|---|

Art Unit: 1763

1. Applicant's arguments with respect to claims of record have been considered but are moot in view of the new ground(s) of rejection.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-5, and 7-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Best et. al (2002/0043080) further in view of Hata et. al. (JP 63-114,866), and Takeuchi et. al. (2002/0,179,576) as applied in paragraph 4 of the previous office action.

Best et. al. disclose a process for fabricating a EUV mirror blank from glass (i.e.-a TiO₂-SiO₂ mixture), which is then used in the photolithographic patterning of a wafer. The EUV mirror blank is fabricated using the following steps:

Art Unit: 1763

- A ULD type glass (i.e.-TiO₂-SiO₂ type glass) is sagged to produce a glass blank.;

- The top surface of the glass blank is then ground, and cmp polished to produce an extremely flat mirror surface.; and

- Multiple, and alternating layers of Mo, and Si are then deposited onto the top surface of the glass blank to produce a mirror with a pattern which can be used in the photolithographic patterning of a wafer.

This is discussed specifically on pages 2-3; and discussed in general on pages 1-3. This is shown in figures 1-6. Best et. al. fail, however, to specifically disclose the following aspects of applicant's claimed invention:

- the specific usage of the process which is claimed by the applicant for polishing (i.e.-flattening) the top surface of the glass blank; and

- the production of a EUV mirror glass blank with the specific level of smoothness, which is claimed by the applicant

It would have been obvious to one skilled in the art to employ the specific means which are taught in paragraph 4 of the previous office action for polishing (i.e.-flattening) the EUV mirror glass blank in the process which is taught above based upon the following. This simply provides an alternative, and at least equivalent means for polishing (i.e.-flattening) the EUV mirror glass blank in the process, which is taught above to the specific means, which are taught above. Further, Hata et. al., and Takeuchi et. al. teach methods for desirably polishing (i.e.-flattening) a glass blank.

Art Unit: 1763


It would have been obvious to one skilled in the art to produce a EUV mirror glass blank with the specific level of smoothness, which is claimed by the applicant based upon the following. It would have been desirable to provide a EUV mirror glass blank with the desired optical properties by proving the top surface of the glass blank with an adequate level of smoothness to achieve those optical properties.

5. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. This action will not be made final due to the new grounds of rejection.

7. Any inquiry concerning this communication should be directed to examiner

George A. Goudreau at telephone number (571)-272-1434.


George A. Goudreau
Primary Examiner
Art Unit 1763